

REMARKS/ARGUMENTS

Claims 18-29, 33-42 and 46-57 are pending in the application.

Claims 18-29, 33-42 and 46-57 have been rejected.

Claims 26-29, 39-42 and 54-57 have been objected to as dependent from a rejected claim.

The specification has been amended, as indicated above.

No new matter has been added.

Reconsideration of the Claims is respectfully requested.

1. In the above referenced Final Office Action:

- a. Claims 18-20 have been objected to due to informalities.
- b. Claims 18-21, 25, 33, 34, 38, 46-49, and 53 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6307844 to Tsunehara et al. ("Tsunehara"), in view of U.S. Patent No. 5,694,391, to Diachina et al. ("Diachina");
- c. Claims 22-24, 35, 36, and 50-52 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunehara, in view of in view of Diachina, further in view of U.S. Patent No. 5,548616, to Mucke et al. ("Mucke"); and
- d. Claims 26-29, 39-42 and 54-57 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The rejections and objections have been traversed and, as such, the applicant respectfully requests reconsideration of the allowability of claims 18-29, 33-42 and 46-57.

2. Claim Objections

Claims 18-20 have been objected to due to informalities, because the replay to a non-final action filed on 10/8/2010, the first line of the claim set reads "1-20 (cancelled)," however, claims 18-20 are still being claimed in the rest of the claims set.

Appropriate correction has been made to overcome this informality.

3. Rejection under Section 103

Claims 18-21, 25, 33, 34, 38, 46-49, and 53 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6307844 to Tsunehara et al. ("Tsunehara"), in view of U.S. Patent No. 5,694,391, to Diachina et al. ("Diachina").

Claims 22-24, 35, 36, and 50-52 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunehara, in view of in view of Diachina, further in view of U.S. Patent No. 5,548616, to Mucke et al. ("Mucke").

Applicant respectfully submits that the hypothetical combination of the device-to-device handshake of Tsunehara with the collision avoidance device of Diachina does not provide a *prima facie* showing of obviousness. The references do not teach or suggest all of Applicant's limitations as set out by Applicant's claims, nor do the references provide a suggestion or motivation for their modification as the references teach against one another.

In the earlier filed response, Applicant submits that "Tsunehara . . . does not teach or disclose power control bits that correspond to a reverse link common channel and that direct a subscriber unit to adjust its reverse link transmission power." (Final Office Action at p. 2). The Final Office Action submits in response that the "limitation basically means that the base station will transmit power control bits to the mobile stations so that each mobile station will adjust its power transmission of a shared uplink channel." (Final Office Action at p. 3).

Applicant respectfully submits that this generalization disregards Applicant's claim language, because "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." MPEP § 2143.03 at page 2100-142 (Rev. 6, Sept. 2007) (citations omitted).

In the "Response to Arguments," the Final Office Action submits that "Tsunehara discloses a base station scheduling uplink transmission channels and time slots for a plurality of mobile stations. Tsunehara also discloses the base station transmitting power control signals (i.e., power control bits to all the mobile stations in order to command the mobile stations to change the uplink transmission power. Furthermore, Tsunehara at column 3 lines 55 through 61 clearly discloses shared channels by mobile terminals one

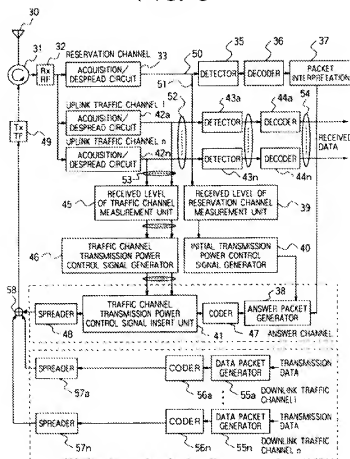
of which is an uplink (i.e., reverse) channel. . . . The power control bit is clearly disclosed at col. 7 lines 29-41.” (Final Office Action at p. 3).

The portion of Tsunehara cited by the Final Office Action recites that the “base station inserts common transmission power control signals 142a, 142b, 142 c, . . . into a common answer channel shared by mobile terminals in the area and transmits them.” (Tsunehara 7:29-33). This portion does not refer to “bits” as set out in Applicant’s claims; Tsunehara refers to bits as the “data packet is made of several tens of bits to allow information of some amount to be transmitted at the same time. In contrast, the common transmission power control signal 111 can be made of n bits assuming the same system as IS-95.” (Tsunehara 5:52-56).

Applicant’s claims, in contrast, sets out that the base station supporting power control channel comprises a plurality of power control bits, each power control bit corresponding to a reverse link common channel of the plurality of reverse link common channel and directing a respective subscriber unit to adjust its reverse link transmission power, and a plurality of inhibit bits. (*see, e.g.*, Claim 1).

Figure 3 of Tsunehara is recited as “a first example of the structure of a base station embodying transmission power control of the present invention:”

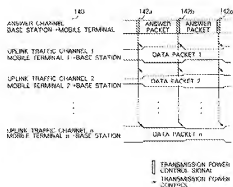
FIG. 3



(Tsunehara 3:10-12). The cited portion of Tsunehara by the Final Office Action recites that “Fig. 3 shows an example of the structure of a base station. A signal received by an antenna 30 is input via a circulator 31 to a reception radio module 32. The reception radio module 32 performs a high/middle frequency reception process to demodulate a signal in a carrier frequency band into a baseband signal. Since the received signal has a plurality of multiplexed channel signals, it is input to an acquisition/despread circuit (33, 42a-42n) to be spectrum despread.” (Tsunehara 4:20-28).

The further portion of Tsunehara cited by the Final Office Action is cited as “illustrating a transmission power control state of an uplink traffic channel realized by the operations of a base station and mobile terminals according to the present invention:”

FIG. 9



(Tsunehara 3:26-29). Tsunehara recites that “the width of a data packet is drawn to correspond to the receive level of the data packet at the base station. For example, in the uplink traffic channel 1, the mobile terminal controls the transmission power such that the transmission powers are increased, reduced, and increased in response to the reception of the common transmission power control signals 142a, 142b, and 142c.” (Tsunehara 7:43-50).

For mobile station power control, Tsunehara recites that “[w]hen the base station communicates with the mobile terminal 1, it inserts transmission power control signals 132a, 132b, 132c, . . . into a downlink traffic channel 130a to the mobile terminal 1. The mobile terminal 1 changes its transmission power of the uplink transmission data in accordance with the transmission power control signal obtained from the received channel 130a.” (Tsunehara 2:7-13).

In Tsunehara, the mobile terminal answers in the handshake to the base station. That is, “[t]he answer packet and common transmission power control signal are spectrum spread by a spreader 48 for answer channel. The spectrum spread answer packet and common transmission power control signal are multiplexed with other downlinks by an adder 58, modulated from the baseband signal into a signal in the carrier

frequency band by a transmission radio module 49” (Tsunechara 6:5-12). The mobile terminal answer packet of Tsunechara supports a per terminal basis on a handshake with a terminal. This handshake is counter to the plurality of power control bits as set out by Applicant’s claims. Tsunechara does not teach or disclose multiple terminal reverse link transmission power control.

At the mobile station, the power level is based upon the answer channel signal characteristics, in that a “transmission power correction unit 123 [of the mobile station] then derives the common transmission power control signal from a signal of the answer channel processed by the answer channel acquisition/despread circuit 63 and detector 64.” (Tsunechara 7:7-10).

Based on the above power determination by the mobile station, Tsunechara does not teach or disclose power control bits that correspond to a reverse link common channel and that direct a subscriber unit to adjust its reverse link transmission power. Further Tsunechara does not teach or disclose inhibit bits that correspond to a reverse link common channel, and that indicate whether a dedicated burst mode has been scheduled for the reverse link common channel.

Also, each of the power control signals of Tsunechara’s common power control channel corresponds to a respectively allocated non-shared uplink traffic channel (*see* FIG. 9 of Tsunechara and related text at col 7, lines 43-49). That is, collision avoidance is accommodated via allocated channels. Tsunechara is silent to transmission inhibiting.

The Final Office Action concurs, in that “Tsunechara, however, does not in particular refer to a plurality of inhibit bits, each of the plurality of inhibit bits corresponding to a reverse link common channel of the plurality of reverse link common channels and indicating whether a dedicated burst mode has been scheduled for the reverse link common channel.” (Final Office Action at p. 3).

The Final Office Action submits that the collision avoidance device of “Diachina was cited for teaching the limitation recited in claimed invention of ‘a plurality of inhibit bits’” (Final Office Action at p. 4). The Final Office Action submits that the

“Diachina in the cited portion teaches BRI flags are used to indicate to the mobile station whether a particular slot was already reserved. . . . The BRI flags inherently indicate to the mobile station, which time slots are prohibited for being used since those time slots are assigned to other mobile stations.” (Final Office Action at p. 4; *see id.* at p. 7). That “a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.” MPEP 2112 at p. 2100-47 (Rev. 6, Sept. 2007).

Applicant’s claims are directed towards reverse channel management via a power control channel. (*see, e.g.*, Claim 18). In contrast, Diachina is directed towards “resolution and/or collision avoidance information . . . on the forward subchannel corresponding to any given frame sent on the [Random Access Channel (RACH)].” (Diachina 6:34-39).

The cited portion of Diachina recites that “[w]hen individual channels are used as communication links on a shared basis, multiple mobile stations may either listen to or contend for the same channels. In the contending situation, each shared channel can be used by a plurality of mobile stations which compete to obtain exclusive use of the channel for a limited period of time. On the other hand, when individual channels are used as communication links on a dedicated basis, a single mobile station is assigned the exclusive use of the channel for as long as it needs it.” (Diachina 3:18-27).

That is, Diachina teaches or discloses contention resolution and/or collision avoidance in which the transmitting station informs other stations to not transmit while it is in process, not reverse link power adjustment as set out by Applicant’s claims, in which the base station directing a mobile station, and which base station supports a power control channel with a plurality of power control bits and a plurality of inhibit bits corresponding to a reverse link common channel. (*see, e.g.*, Claim 18).

Diachina recites that the “[communication link] layer 2 protocol also contains a plurality of flags. Forward shared control feedback (SCF) flags are used to control transmissions on the [random access control channel (RACH)]. A busy/reserved/idle (BRI) flag is used to indicate whether its corresponding uplink RACH slot is Busy,

Reserved or Idle.” (Diachina 9:41-45). “Contention resolution and/or collision avoidance information is provided on the forward subchannel corresponding to any given frame sent on the [random access control channel].” (Diachina 6:37-39). When channels are used on “a shared basis, multiple mobile stations may either listen to or contend for the same channels.”

Diachina does not teach or disclose a power control channel, nor does it teach or disclose power control generally, in contrast to Applicant’s claims. Further, the BRI flags do not provide “inhibit bits,” but instead refer to downlink operations by the “base station, mobile telephone service center and internetworking function (BMI).” (*see* Diachina 14:15-20).

In contrast to the downlink operations by the base station of Diachina, the power control channel of Applicant’s claims refers to “a mobile station [being] inhibited from transmitting during the next slot on the corresponding R-CCH.” (*Specification* at p. 29, lines 5-8). As further explained in Applicant’s Specification, “the reverse link is strictly interference limited, that is, one user’s reverse link energy at the base station receiver acts as interference to other users signals. Thus, in the typical case, a plurality of MSs transmit to the BTS simultaneously on the reverse link with each reverse link transmission spread by a unique PN code or PN code shift.” (*Specification* at p. 4, *ll.* 17-23).

In this regard, Applicant’s claims refer to a power control channel, in which the cited references do not teach or disclose, and/or otherwise teach away from.

For example, Applicant’s Independent Claim 18 recites, *inter alia*, a “base station that supports communications . . . in a CDMA wireless communication system, the base station comprising: . . . the base station supporting a power control channel comprising: a plurality of power control bits, each power control bit corresponding to a reverse link common channel of the plurality of reverse link common channels and directing a respective subscriber unit to adjust its reverse link transmission power; and a plurality of inhibit bits, each of the plurality of inhibit bits corresponding to a reverse link common

channel of the plurality of reverse link common channels and indicating whether a dedicated burst mode has been scheduled for the reverse link common channel.”

Applicant’s Independent Claim 21 recites, *inter alia*, a “base station that supports communications . . . in a CDMA wireless communication system, the base station comprising: . . . the base station supporting a power control channel comprising: a first power control/inhibit bit stream that corresponds to a first reverse link common channel; and a second power control/inhibit bit stream that corresponds to a second reverse link common channel, the second power control/inhibit bit stream offset in relation to the first power control/inhibit bit stream.”

Applicant’s Independent Claim 33 recites, *inter alia*, a “subscriber unit that supports communications with a base station in a CDMA wireless communication system, the subscriber unit comprising: . . . the subscriber unit decoding and processing a power control signal to extract a power control bit and an inhibit bit corresponding to a common channel used by the subscriber unit, the power control signal comprises: a plurality of power control bits, each power control bit corresponding to a respective reverse link common channel of a plurality of reverse link common channels and directing a respective subscriber unit transmitting on the respective reverse link common channel to adjust its reverse link transmission power; and a plurality of inhibit bits, each of the plurality of inhibit bits corresponding to a respective reverse link common channel of the plurality of reverse link common channels and indicating whether a dedicated burst mode has been scheduled for the respective reverse link common channel.”

Applicant’s Independent Claim 34 recites, *inter alia*, a “subscriber unit that supports communications with a base station in a CDMA wireless communication system, the subscriber unit comprising: . . . the subscriber unit decoding and processing a power control signal to extract a first power control/inhibit bit stream that corresponds to a first reverse link common channel, the power control signal comprising: a first power control/inhibit bit stream that corresponds to a first reverse link common channel; and a second power control/inhibit bit stream that corresponds to a second reverse link common

channel, the second power control/inhibit bit stream offset in relation to the first power control/inhibit bit stream.”

Applicant’s Independent claim 46 recites, *inter alia*, a “method for transmitting power control bits from a base station to a plurality of subscriber units in a code division multiple access wireless communication system . . . the method comprising: determining a plurality of power control bits, each power control bit corresponding to a respective reverse link common channel of the plurality of reverse link common channels and directing a respective subscriber unit to adjust its reverse link transmission power; determining a plurality of inhibit bits, each of the plurality of inhibit bits corresponding to a respective reverse link common channel of the plurality of reverse link common channels and indicating whether a dedicated burst mode has been scheduled for the reverse link common channel; assembling the plurality of power control bits and the plurality of inhibit bits into a common bit stream; and transmitting the common bit stream to the plurality of subscriber units.”

Applicant’s Independent Claim 49 recites, *inter alia*, a “method for transmitting power control bits from a base station to a plurality of subscriber units in a code division multiple access wireless communication system, the common power control bits causing the subscriber units to manage their reverse link transmissions on a plurality of reverse link common channels, the method comprising: determining a first power control/inhibit bit stream that corresponds to a first reverse link common channel; determining a second power control/inhibit bit stream that corresponds to a second reverse link common channel; combining the first power control/inhibit bit stream with the second power control/inhibit bit stream into a common bit stream such that the second power control/inhibit bit stream is offset in relation to the first power control/inhibit bit stream; and transmitting the combined bit stream on a forward link channel.”

Applicant respectfully submits that a *prima facie* showing of obviousness has not been made because the hypothetical combination of the combined answer/power control signals of Tsunehara with the collision avoidance of Diachina do not provide a suggestion or motivation for the proposed combination, nor provide any suggestion or

motivation to achieve Applicant's invention as set out by the claims. Further, the hypothetical combination of the combined answer/power control signals of Tsunehara with the collision avoidance of Diachina does not teach or disclose all of Applicant's claim limitations.

Claims 19 and 20 are dependent upon claim 18. Claims 22-29 are dependent upon claim 21. Claims 35-42 are dependent upon claim 34. Claims 47 and 48 are dependent upon claim 46. Claims 50-57 are dependent upon claim 49. Applicant respectfully submits that these dependent claims introduce additional patentable subject matter, and submits the reasons that distinguish claim 18, 21, 33,34 and 46 over the present rejection are applicable in distinguishing claims 19, 20, 22-29, 35-42, 47, 48 and 50-57 over the same rejection.

3. Allowable Subject Matter

Claims 26-29, 39-42 and 54-57 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant notes with appreciation this indication of allowability.

CONCLUSION

The Applicant respectfully submits that Claims 18-29, 33-42 and 46-57 in the Application are in condition for allowance, and respectfully requests allowance of such Claims.

No additional fees are believed to be due. In the event that additional fees are due or a credit for an overpayment is due, the Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Garlick Harrison & Markison Deposit Account No. 50-2126.

The Examiner is invited to contact the undersigned by telephone, facsimile, or email if the Examiner believes that such a communication would advance the prosecution of the present invention.

RESPECTFULLY SUBMITTED,

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